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THE NOMENCLATURE OF THE CULTIVATED SORGHUMS

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THE CULTIVATED SORGHUMS in the United States may readily be separated into four cultural groups: (1) the grass sorghums, which include Johnson grass, Sudan grass and Tunis grass; (2) the sweet or saccharine sorghums, commonly known as sorgos; (3) the grain or non-saccharine sorghums, which comprise durra, feterita, hegari, kaoliang, milo and shallu; and (4) the broomcorns.

The determination of the taxonomic identity of these plants, however, is a difficult matter, and their nomenclature has long been in an unusually chaotic state. In consequence, the greater part of the literature dealing with sorghums in the United States has made little or no reference to the scientific names.

Several causes have been responsible for this state of affairs. The normally complicated nomenclature of any group with numerous horticultural forms has, in this instance, been further confused by the fact that the sorghums have been referred at various times to at least three distinct genera: *Andropogon*, *Holcus* and *Sorghum*. There has also existed a considerable difference of opinion among taxonomists as to whether the several races should be accorded a varietal or a specific status. Finally the identity of certain of the forms has been in

doubt. This has been particularly true in the case of milo and kaoliang, which are not listed in such authoritative manuals as Bailey (1) and Hitchcock (2).

Within the last few years considerable progress has been made toward a better and more accurate understanding of the group. The typification of the generic name *Holcus* by *H. lanatus* L., in accordance with the rules of the Sixth International Botanical Congress, has rendered the generic name *Sorghum* available for the cultivated sorghums. This eliminates the confusion which arises when these plants are considered as species and varieties of *Holcus*.

In 1935, J. D. Snowden published a classification of the cultivated sorghums (3) and followed this, in 1936, by an exhaustive monograph (4) dealing with all the cultivated races of sorghum. In this latter work the author discusses the taxonomic position and botanical history of the various types in great detail, and gives, as well, much valuable information in regard to the cultural features of the plants concerned. Snowden, following the European custom, considers the chief groups of *Sorghum* to be distinct species, and lists some 31 species, 158 varieties and 524 unnamed forms. Probably few American botanists will care to adopt this treatment, preferring to treat the majority of the cultivated forms as varieties of a single polymorphic species. Snowden, nevertheless, has made a distinct contribution and one that should be acceptable to everyone, in that he makes clear the identity of all the larger groups, indicating their nomenclatorial history and citing full synonymy as well. As a result of his work one can now list the American sorghums more completely and more accurately than has hitherto been possible.

The object of this paper is to assign names to those sorghums which are not treated in Bailey or Hitchcock,

and to indicate a few changes in the citation of authorities as well. No attempt will be made to reconcile all the kinds of sorghum grown in this country with one or another of Snowden's species or varieties; nor to discuss the several nomenclatorial changes which he proposes.

For the sake of clarity all the larger groups of American Sorghums will be listed below, irrespective of whether or not any nomenclatorial changes are herein indicated. With the exception of the grass sorghums, they will be treated as varieties of *Sorghum vulgare* Pers., following the custom usual in this country. The several grass sorghums, on the other hand, will be considered as distinct species, a practice rather generally adopted in the United States as well as in Europe.

THE CULTIVATED SORGHUMS IN THE UNITED STATES.

1. **Sorghum halepense** (*L.*) *Persoon* Syn. Pl. 1 (1805) 101. Johnson grass.

Holcus halepensis Linnaeus Sp. Pl. (1753) 1047.

2. **Sorghum sudanensis** (*Piper*) *Stapf* in Prain Fl. Trop. Afr. 9 (1917) 113. Sudan grass.

Andropogon Sorghum Brot. var. *sudanensis* Piper in Proc. Biol. Soc. Wash. 28 (1915) 33.

Holcus sudanensis L. H. Bailey Gentes Herb. 1 (1923) 132.

Sorghum vulgare Pers. var. *sudanense* (Piper) Hitchcock in Journ. Wash. Acad. Sci. 17 (1917) 147.

3. **Sorghum virgatum** (*Hack.*) *Stapf* in Prain Fl. Trop. Afr. 9 (1917) 111. Tunis grass.

Andropogon Sorghum Brot. subsp. *halepensis* Hack. var. *virgatus* Hackel in DC. Monogr. Phan. 6 (1889) 504.

Holcus virgatus L. H. Bailey Gentes Herb. 1 (1923) 132.

4. **Sorghum vulgare** *Persoon* Syn. Pl. 1 (1805) 101.
Sorghum.

Holcus Sorghum Linnaeus Sp. Pl. (1753) 1047.

Andropogon Sorghum Brotero Fl. Lusit. 1 (1804)
88.

var. **bicolor** (*L.*) *Persoon* Syn. Pl. 1 (1805) 101.
Gooseneck sorgo.

Holcus bicolor Linnaeus Mant. Alt. (1771) 301.

Sorghum bicolor Moench Meth. Pl. (1794) 207.

var. **caffrorum** (*Retz.*) *Hubbard & Rehder* in Bot.
Mus. Leaflets Harv. Univ. 1 (1932) 10 (Published
as var. *caffrorum* (*Thunb.*) *Hubbard & Rehder*).
Kafir.

Panicum caffrorum Retzius Obs. Bot. 2 (1781) 7.

Holcus caffrorum Thunberg Prod. Pl. Cap. (1794)
20.

Sorghum caffrorum Beauvois Agrost. (1812) 131,
178.

Holcus Sorghum L. var. *caffrorum* L. H. Bailey
Gentes Herb. 1 (1923) 133.

In addition to the various kafirs, Snowden in-
cludes hegari and several of the sweet sorghums,
such as Orange Sorgo and closely related types,
in this variety.

var. **caudatum** (*Hack.*) *A. F. Hill* comb. nov.
Feterita.

Andropogon Sorghum Brot. subsp. *sativus* Hack.

var. *caudatus* Hackel in DC. Monogr. Phan. 6
(1889) 517.

Sorghum caudatum Stapf in Prain Fl. Trop. Afr.
9 (1917) 131.

Holcus Sorghum L. var. *caudatus* L. H. Bailey
Gentes Herb. 1 (1923) 133.

var. **cernuum** (*Ard.*) *Fiori & Paoletti* Icon. Fl. Ital. (1895) 14. White durra.

Holcus cernuus Arduino in Saggi Sci. e Lett. Padova 1 (1786) 128, t. 3, figs. 1 & 2.

Sorghum cernuum Host Gram. Aust. 4 (1809) 2, t. 3.

Snowden clearly indicates that the White durra or Jerusalem corn belongs to a different race from the Brown durra (var. *Durra*).

var. **Drummondii** (*Nees*) *Chiovenda* in Result. Sci. Miss. Stefan.-Paoli. Somal. Ital. 1 Coll. Bot. (1916) 224. Chicken corn.

Andropogon Drummondii Nees in Steud. Syn. Pl. Glum. 1 (1854) 393.

Sorghum Drummondii Nees ex Steudel Syn. Pl. Glum. 1 (1854) 393 in synonym.—Millspaugh & Chase in Publ. Field Columb. Mus. Bot. 3 (1903) 21.

Holcus Sorghum L. var. *Drummondii* Hitchcock in Proc. Biol. Soc. Wash. 29 (1916) 128.

Sorghum vulgare Pers. var. *Drummondii* (Nees) Hitchcock in Amer. Journ. Bot. 21 (1934) 139.

This variety is not grown at the present time and is of historical interest only.

var. **Durra** (*Forsk.*) *Hubbard & Rehder* in Bot. Mus. Leaflets Harv. Univ. 1 (1932) 10. Brown durra.

Holcus durra Forskal Fl. Aegypt.-Arab. (1775) 174.

Sorghum Durra Stapf in Prain Fl. Trop. Afr. 9 (1917) 129.

Holcus Sorghum L. var. *Durra* L. H. Bailey Gentes Herb. 1 (1923) 132.

var. **nervosum** (*Besser ex Schult.*) *Forbes & Hemsley* in Journ. Linn. Soc. Bot. 36 (1904) 368. Kaoliang.

Sorghum nervosum Besser ex Schultes in Roem. & Schult. Syst. Veg. Mant. 3 (1827) 669.

var. **nigricans** (*Ruiz & Pav.*) *A. F. Hill* comb. nov. Sumac sorgo.

Milium nigricans Ruiz & Pavon Fl. Peruv. et Chil. 1 (1798) 47.

Sorghum nigricans (Ruiz & Pav.) Snowden in Kew Bull. (1935) 244.

var. **Roxburghii** (*Hack.*) *Haines* Bot. Bohar. & Orissa, pt. 5 (1924) 1034. Shallu.

Andropogon Sorghum Brot. subsp. *sativus* Hack. var. *Roxburghii* Hackel in DC. Monogr. Phan. 6 (1889) 510.

Sorghum Roxburghii Stapf in Prain Fl. Trop. Afr. 9 (1917) 126.

Holcus Sorghum L. var. *Roxburghii* L. H. Bailey Gentes Herb. 1 (1923) 132.

Sorghum vulgare Pers. var. *Roxburghii* (Stapf) Haines of Hitchcock's Manual.

var. **saccharatum** (*L.*) *Boerlage* in Ann. Jard. Bot. Buitenzorg 8 (1890) 69. Sorgo.

Holcus saccharatus Linnaeus Sp. Pl. (1753) 1047, emend. Sp. Pl. 2 (1763) 1484.

Sorghum saccharatum Moench Meth. Pl. (1794) 207.

Holcus Sorghum L. var. *saccharatus* L. H. Bailey Gentes Herb. 1 (1923) 132.

Holcus dochna Forskal Fl. Aegypt.-Arab. (1775) 174.

Sorghum dochna (Forsk.) Snowden in Kew Bull. (1935) 234.

The sorgos are a much more heterogeneous group than the other sorghums and are referred by Snowden to several varieties. Many of them, particularly the Amber and Honey sorgos, belong here; other types are referred to var. *bicolor*, var. *caffrorum*, or var. *nigricans*.

For various reasons Snowden considers *Holcus saccharatus* L. to be a *nomen dubium*, and takes up instead Forskal's name for this plant.

var. **subglabrescens** (*Steud.*) *A. F. Hill* comb. nov. Milo.

Andropogon subglabrescens Steudel Syn. Pl. Glum. 1 (1854) 393.

Sorghum subglabrescens Schweinfurth & Ascherson in Schweinf. Beitr. Fl. Aethiop. (1867) 302, 306.

var. **technicum** (*Koern.*) *Fiori & Paoletti* Fl. Anal. Ital. 1 (1896) 46. Broomcorn.

Andropogon Sorghum Brot. var. *technicum* Koernicke in Koern. & Wern. Handb. Getreidebau 1 (1885) 308.

Sorghum technicum Battandier & Trabut Fl. Algér. Monocot. (1895) 128.

Sorghum vulgare Pers. var. *technicum* (Koern.) Jávorka Magyar Fl. 1 (1924) 63 according to Hitchcock's Manual.

Holcus Sorghum L. var. *technicus* L. H. Bailey Gentes Herb. 1 (1923) 132.

Sorghum dochna (Forsk.) Snowden var. *technicum* (Koern.) Snowden in Kew Bull. (1935) 235.

Broomcorn is considered to be a variety of Sorgo by Snowden and several other taxonomists.

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